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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,002	12/20/1999	PAUL NEGULESCU	AUR01130-2	3109

7590 05/21/2002

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EXAMINER
LANDSMAN, ROBERT S

ART UNIT	PAPER NUMBER
1647	11

DATE MAILED: 05/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/468,002	Applicant(s) NEGULESCU ET AL.	
	Examiner Robert Landsman	Art Unit 1647	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *63,66-71,74,75,78-81,84-90,93,94,97-102 and 105-138* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *63,66-71,74,75,78-81,84-90,93,94,97-102 and 105-138* is/are rejected.

7)☒ Claim(s) *63,66-71,74,75,78-81,84-90,93,94,97-102 and 105-137* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 December 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *10* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Sequence Comparisons A and B* .

DETAILED ACTION

1. Formal Matters

A. The Information Disclosure Statement, filed 3/5/02, has been entered into the record.

B. Amendment C, filed 3/5/02, has been entered into the record.

C. Claims 63-123 were pending in the application. In Amendment C, Applicants cancelled claims 64, 65, 72, 73, 76, 77, 82, 83, 91, 92, 95, 96, 103 and 104 and added new claims 124-138. These new claims do not add new matter. Therefore, claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-138 are pending and are the subject of this Office Action.

D. All Statutes under 35 USC not found in this Office Action can be found, cited in full, in a previous Office Action.

2. Specification

A. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title reads "Promiscuous G-protein compositions and their use." However, the claims are only drawn to methods of using G-proteins and not to the G-proteins themselves. The following title, for example, is suggested: "Methods of using promiscuous G proteins to identify G protein-coupled receptors and their ligands."

B. It is noted that the continuing data in the first line of the specification recites that the present application is a divisional (DIV) of U.S. Application Serial No. 08/878,801. However, the Filing Receipt recites that the present application is a continuation (CON) of U.S. Application Serial No. 08/878,801. This discrepancy will be corrected and a Corrected Filing Receipt will be mailed to Applicants.

C. The specification is objected to since it appears that, in the first line of the specification, U.S. Application, 08/878,801, is a continuation-in-part of provisional application, 60/020,234. This issue needs to be addressed, since U.S. Applications can only claim benefit of provisional applications, and not claim that they are continuations-in-part.

3. Claim Objections

A. Claims 63, 81, 94 and 102 are objected to since the word "and" should be inserted between the words "reporter gene," and "c) a third." Claims 66-70, 84-89, 97-101, 105-121, 123, 125, 129-133, 136 and 138 are also objected to since they depend from these claims.

B. Claims 71, 75 and 90 are objected to since the format of these claims is not parallel to other independent claims such as, for example, claim 63 and 94. Claims 63 and 94 are organized in appropriate outline form since they recite "major" parts as "(i)," "(ii)" and "(iii)" and "minor" subparts as "(a)," "(b)" and "(c)." However, claims 71, 75, 90 are not organized as is claim 63. Though it is not a requirement that all of the claims be organized similarly, it does make the claims more readable. Claims 74, 78-80, 93, 122, 124, 126, 127, 128, 134, 135 and 137 are objected to since they depend from these claims.

C. Claim 81 is objected to since the syntax could be improved by putting the number "95" and the "%" on the same line. Claims 84-89, 112, 113, 119, 123, 130 and 136 are objected to since they depend from claim 81.

D. Claims 88 and 101 are objected to since they depend from claims 81 and 94, respectively. While this is not incorrect, the Examiner wishes to bring to Applicants' attention that claim 70, which is similar, depends from claim 68, which recites a method of increasing calcium levels in the cell, and does not depend from its base claim, 63. Therefore, it is believed that claims 88 and 101 should be drawn to their respective claims, which recite said method and not to their base claims.

E. Claim 102 is objected to since the period after the phrase "steps of" should be replaced with a colon. Furthermore, in part (i) of claim 102, the comma between the words "comprising" and "a plurality" should be removed. Also, the word "and" should be inserted between parts (iii) and (iv). Claims 105-109, 116, 117, 121 and 132 are also objected to since they depend from claim 102.

F. Claim 107 is objected to since the phrase "the cell" should be replaced with the phrase "said cells." Claims 108 and 109 are also objected to since they depend from claim 107.

G. Claims 116 and 117 are objected to since there should be a space between the word "claim" and the number "106." Claim 121 is objected to since it depends from claim 116.

H. Claim 137 is objected to since the syntax could be improved by replacing the word "detected" with ", wherein said change is detected."

4. Claim Rejections - 35 USC § 112, first paragraph – scope of enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

A. The rejection of claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 under 35 USC 112, first paragraph, on page 3 of the Office Action dated 11/23/01, regarding Gα15 proteins which are at least 70% or 80% identical to SEQ ID NO:2, has been withdrawn since Applicants have amended the claims to recite that the Gα15 proteins in the methods of the present invention have at least 95% sequence homology to SEQ ID NO:2 and not the excessive breadth of at least "70%" or "80%" sequence homology to SEQ ID NO:2.

B. The rejection of claims 63, 71, 75, 81, 90, 94 and 102 under 35 USC 112, first paragraph, on pages 4-5 of the Office Action dated 11/23/01, regarding the fact that Applicants do not require that the G protein-coupled receptor (GPCR) has to be transfected into the cell, has been withdrawn since Applicants have amended the claims to recite that the GPCR is not endogenously expressed in the cell. Regarding the second part of this rejection (page 5 of the Office Action date 11/23/01), the Examiner agrees that Applicants are not responsible for the correctness of theories as to how Gα15 activation is capable of modulating the expression of the reporter gene, and that whether or not Gα15 directly or indirectly activates the reporter gene is not relevant to the question of enablement. Therefore, this part of the rejection has also been withdrawn.

C. Claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-138 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of identifying a GPCR for a given ligand, identifying a ligand for a given GPCR, or identifying modulators of GPCR signal transduction (Example 6, page 42 and Example 8, pages 43-44) using only the stable cell lines produced in Example 4 of the specification, does not reasonably provide enablement for a method of identifying GPCRs for a given ligand, identifying a ligand for a given GPCR, or identifying modulators of GPCR signal transduction in any stable cell line other than that of Example 4 in the specification. The

specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

In In re Wands, 8USPQ2d, 1400 (CAFC 1988) page 1404, the factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

First, the breadth of the claims is excessive since Applicants claim methods for identifying GPCRs for a given ligand, identifying a ligand for a given GPCR, or identifying modulators of GPCR signal transduction in *any* stable cell line other than that specifically taught in Example 4 of the instant specification. Applicants have only provided guidance and working examples of one stable cell line which can express promiscuous Gα15 protein. This is seen in Example 4, pages 38-40, of the specification. Applicants have shown that a stable cell line expressing promiscuous Gα15 protein can only be produced by co-transfecting COS-7 cells with (1) a gene encoding a Gα15 protein which is placed under the control of a cytomegalovirus (CMV) promoter operably linked to a heptamerized tet operator and (2) a tetracycline-dependent transactivator, rtTA that is also operably linked to a CMV promoter. Furthermore, Applicants have demonstrated that Gα15 protein can only be induced by doxycyclin (a tetracycline analog) in the range of 0.01 – 10 μ/ml. This induction increases the number of Gα15 protein from less than 100 Gα15 proteins/cell to more than 10,000 Gα15 proteins/cell. This is important since Applicants have provided evidence in the form of a Declaration under 37 CFR 1.132 by a co-inventor, Paul Negulescu, in Paper No. 9. The Declaration states that producing stable (i.e. permanent) cell lines expressing Gα15 with promiscuous coupling properties was impeded by the difficulty in overexpressing Gα15 proteins, and that such overexpression 1) was toxic to the cells and 2) resulted in down-regulation of GPCRs. Applicant further states that underexpression of the G protein of interest does not induce promiscuity. Applicants use this information to argue that the present invention is not obvious in light of the cited references because one skilled in the art would not know whether stable expression of G protein in a cell would be excessive and, therefore, 1) was toxic to the cells and 2) resulted in down-regulation of GPCRs, or if this expression would be insufficient and not result in promiscuity of the G protein. Though the issue of obviousness in not a factor for rejecting claims under 35 USC 112, first paragraph, it is being discussed in this rejection since Applicants have provided Declaratory evidence that the production of promiscuous G proteins would not have been obvious to the artisan at the time of the invention for the

reasons previously discussed in this paragraph regarding overexpression and underexpression of the G proteins.

The Examiner has argued previously that producing stable cell lines comprising G proteins is obvious to one of ordinary skill in the art, as seen from the previous rejections under 35 USC 103(a) by Pausch et al., Offermanns et al., Abe et al., Negulescu et al., Hazlett et al., and Goddard et al. in Paper No.5. Since Applicants have argued through a Declaration under 37 CFR 1.132 that the production of stable cell lines would not be obvious to the artisan due to the requirement of essential steps not disclosed in Pausch et al., Offermanns et al., Abe et al., Negulescu et al., Hazlett et al., or Goddard et al., then it would not be predictable to one of ordinary skill in the art how to produce a stable cell line expressing promiscuous Gα15 protein other than by using the *one* specific method in the *one* specific cell line taught by the Applicants in Example 4 of the specification. Therefore, the claims, as written, have not enabled the artisan to practice the claimed methods without using the promoters, transactivators, and cells taught in Example 4 of the specification. Therefore, these essential elements need to be recited in the claims in order for the claims to be enabled since there is no disclosure of an invention which can be made that does not require these critical elements.

Therefore, in summary, the breadth of the claims is excessive since Applicants claim methods for identifying GPCRs for a given ligand, identifying a ligand for a given GPCR, or identifying modulators of GPCR signal transduction in any stable cell line other than that specifically taught in Example 4 of the instant specification. Applicants have only provided guidance and working examples of one stable cell line expressing promiscuous Gα15 protein which can only be produced by co-transfecting COS-7 cells with (1) a gene encoding a Gα15 protein which is placed under the control of a cytomegalovirus (CMV) promoter operably linked to a heptamerized tet operator and (2) a tetracycline-dependent transactivator, rtTA that is also operably linked to a CMV promoter. For these reasons, along with the unpredictability to one of ordinary skill in the art how to produce a stable cell line expressing promiscuous Gα15 protein other than by using the one specific method in the one specific cell line taught by the Applicants in Example 4 of the specification, the Examiner holds that undue experimentation would be necessary to have performed the claimed method of identifying GPCRs for a given ligand, identifying a ligand for a given GPCR, or identifying modulators of GPCR signal transduction in any stable cell line other than that disclosed in Example 4 of the specification.

5. Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A. The rejection of claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-123 under 35 USC 112, second paragraph, on page 6 of the Office Action, dated 11/23/01, regarding the claims reading on cells which endogenously express the GPCR, reporter gene and G protein, has been withdrawn since Applicants have amended the claims to recite that the GPCR is not endogenously expressed in the cell. Similarly, the second part of this rejection regarding "how to determine which GPCR was a target for a test ligand" has also been withdrawn in view of this amendment to the claims.

B. The rejection of claims 79 and 89 under 35 USC 112, second paragraph, regarding "target protein" has been withdrawn since Applicants removed this term from the claims.

C. The rejection of claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-123 under 35 USC 112, second paragraph, on page 6 of the Office Action dated 11/23/01, regarding the fact that the claims do not necessarily indicate that the "said ligand" of the claims is acting through the GPCR of interest, has been withdrawn in view of Applicants' amendment to the claims to recite that the GPCR is not endogenously expressed in the cell. Therefore, any effect on reporter gene function can be attributed to the GPCR which has been transfected into the cell. The second part of this rejection regarding the addition of a step which demonstrates that the change in reporter gene expression indicates that the ligand used in these methods is a ligand for the GPCR in question, has also been withdrawn in view of this amendment by Applicants, as well as the fact that one of ordinary skill in the art, along with the proper controls readily known to the artisan, would be able to determine that the ligand used in these methods was, in fact, a ligand for the GPCR in question, or that the appropriate GPCR was identified for a given ligand.

D. The rejection of claims 67-70, 74, 78, 80, 84-88, 93, 97-101 and 105-109 under 35 USC 112, second paragraph, on page 6 of the Office Action, dated 11/23/01, regarding the lack of a recitation of time point for the claimed methods, has been withdrawn in view of Applicants' arguments that a person of ordinary skill in the art would clearly be able to devise a time point at which the comparison steps could be performed. Applicants further support this argument by directing the Examiner's attention to

pages 20 and 43 of the specification. Furthermore, the second part of this rejection, regarding claims 68-70, 78, 80, 84-88, 93, 97-101 and 105-109, has also been withdrawn in view of Applicants' arguments that a person of ordinary skill in the art would be familiar with, or could identify, suitable reporter gene substrates for use with the reporter genes disclosed in the specification. Applicants further cite numerous patents and publications on pages 20-21 of their response, dated 3/5/02, to support their argument, including Goldsmith et al. (J. Biol. Chem. 264:17190-17197, 1989), U.S. Patent No. 5,401,629 and Chen et al. (Analytical Biochem. 226:349-354, 1995).

Claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-138 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

E. Claims 63, 66-71, 74, 75, 78-81, 84-90, 93, 94, 97-102 and 105-138 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. According to Applicants' Declaration under 37 CFR 1.132, the only way to produce a stable cell line which expresses promiscuous Gα15 proteins is to co-transfect COS-7 cells with (1) a gene encoding a Gα15 protein which is placed under the control of a cytomegalovirus (CMV) promoter operably linked to a heptamerized tet operator and (2) a tetracycline-dependent transactivator, rtTA that is also operably linked to a CMV promoter. Therefore, these elements must be included in the claims. The methods of independent claims 63, 71, 75, 81, 90, 94 and 102, as written, do not enable the artisan to make the claimed cell line which expresses promiscuous Gα15 protein. Claims 66-70, 74, 78-80, 84-89, 93, 97-101 and 105-138 are rejected since they depend from rejected base claims.

F. Claims 75, 78-80, 122, 127 and 135 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: identifying the claimed ligand. Claim 75 recites a method of identifying a ligand for a GPCR by contacting a cell with a test chemical and detecting a change in signal transduction before and after addition of this test chemical. However, there is no mention of identifying the claimed ligand in any of the steps. Claims 78-80, 122, 127 and 135 are rejected depend from rejected claim 75.

G. Claims 81, 84-89, 112, 113, 119, 123, 130 and 136 are confusing since it is not understood what the "test chemical" of claim 81 encompasses and how it adds to the claim. The specification only discloses that a test chemical can activate a reporter gene (page 24, lines 2-3). Regardless of the definition of "test chemical," it appears that the test chemical can be omitted from the claims and detection of a ligand would still be possible according to the invention as claimed. Claims 84-89, 112, 113, 119, 123, 130 and 136 are also rejected since they depend from rejected base claims.

H. Claims 90, 93, 94, 97-101, 114, 115, 120, 124, 125, 128, 131, 137 and 138 are confusing since, according to part (a) of claims 90 and 94, the "test chemical" is added before the ligand of part (b). However, the signal transduction system cannot be activated in the absence of the claimed ligand. Part (c) recites detecting a change in a signal by comparing the signal prior to the addition of the test chemical to that after the addition of a test chemical. Therefore, the ligand must be added to the system before the addition of the test chemical of part (a). In other words, the order of parts (a) and (b) should be reversed. Claims 97-101, 114, 115, 120, 124, 125, 128, 131, 137 and 138 are also rejected since they depend from rejected base claims.

I. Claims 118-121 are confusing since they recite that the reporter gene substrate is CCF2, which is a β-lactamase substrate. However, claims 118-121 depend from respective claims 110, 112, 114 and 116 and claims 110, 112, 114 and 116 depend from claims 67, 85, 98 and 106, respectively. Claims 67, 85, 98 and 106 all recite that the reporter gene is selected from a group comprising reporter genes other than β-lactamase. Therefore, if a reporter gene other than β-lactamase is selected in claims 67, 85, 98 and 106, then it is not understood how CCF2 will be able to act as a substrate for these reporter genes since, again, CCF2 is only a substrate for β-lactamase.

J. Claim 135 recites the limitation "step (iii)" in claim 75, from which it depends. There is insufficient antecedent basis for this limitation in the claim.

K. Claims 133-137 are confusing since the recitation of "second control cell line" makes it appear that there is a "first control cell line." It is suggested that the term "second" be removed from the claims.

L. Claim 138 is confusing since it recites that the reporter gene expression in a second control cell line lacking said GPCR is detected under the same conditions as in step (i), (ii) and (iii). However, step (i) recites that the cell is transfected with a polynucleotide encoding a GPCR, which is contradictory to the desired control step, which requires the absence of a GPCR.

6. Claim Rejections - 35 USC § 103

A. The Office Action, dated 3/27/01 (Paper No. 5), contained numerous rejections under 35 USC 103(a). These rejections were withdrawn in view of a Declaration under 37 CFR 1.132 by a co-inventor, Paul Negulescu, in Paper No. 9. In this Declaration, previous rejections made by the Examiner under 35 USC 103(a) in Paper No. 5 were addressed. These concern the references of Pausch et al., Offermanns et al., Abe et al., Negulescu et al., Hazlett et al., and Goddard et al. (see page 1 of Applicant's Declaration). Applicant argues that producing stable (i.e. permanent) cell lines expressing Gα15 with promiscuous coupling properties was impeded by the difficulty in overexpressing Gα15 proteins, and that such overexpression 1) was toxic to the cells and 2) resulted in down-regulation of GPCRs. Applicant further states that underexpression of the G protein of interest does not induce promiscuity. Therefore, the present invention is not obvious in light of the cited references because one skilled in the art would not know whether stable expression of G protein in a cell would be excessive and, therefore, 1) was toxic to the cells and 2) resulted in down-regulation of GPCRs, or if this expression would be insufficient and *not* result in promiscuity of the G protein. This Declaration by Paul Negulescu has been considered and is deemed persuasive by the Examiner.

Furthermore, the claims, as amended, recite that the G protein of the invention has "at least 95% sequence homology to SEQ ID NO:2." This amendment obviates the previous rejections under 35 USC 103(a) by Pausch et al., Offermanns et al., Abe et al., Negulescu et al., Hazlett et al., and Goddard et al. since none of these references teaches a G-protein which has "at least 95% sequence homology to SEQ ID NO:2." However, the Examiner brings to Applicants' attention a reference by Amatruda III et al. (PNAS 88:5587-5591, 1991) who teach a protein which is 100% identical to SEQ ID NO:2 as well as a polynucleotide encoding this protein (see Sequence Comparisons A and B accompanying this Office Action). A rejection under 35 USC 103(a), however, will not be made since, in view of Applicant's Declaration under 37 CFR 1.132, the present invention is not obvious in light of Pausch et al., Offermanns et al., Abe et al., Negulescu et al., Hazlett et al., or Goddard et al. because one skilled in the art would not know whether stable expression of G protein in a cell would be excessive and, therefore, 1) was toxic to the cells and 2) resulted in down-regulation of GPCRs, or if this expression would be

insufficient and not result in promiscuity of the G protein. Therefore, regardless of whether or not a G-protein of SEQ ID NO:2 was known in the art, Applicant's reasoning stands as persuasive and the Examiner is not able to make a reasonable rejection under 35 USC 103(a).

Advisory information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Landsman whose telephone number is (703) 306-3407. The examiner can normally be reached on Monday - Friday from 8:00 AM to 5:00 PM (Eastern time) and alternate Fridays from 8:00 AM to 5:00 PM (Eastern time).

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Gary Kunz, can be reached on (703) 308-4623.

Official papers filed by fax should be directed to (703) 308-4242. Fax draft or informal communications with the examiner should be directed to (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Robert Landsman, Ph.D.
Patent Examiner
Group 1600
May 20, 2002